PTO 06-5744

CY=JA DATE=19920117 KIND=A
PN=04-013288

KARAOKE DEVICE
[Karaoke souchi]

Yasutada Aoyama

UNITED STATES PATENT AND TRADEMARK OFFICE
Washington, D.C. July 2006

Translated by: FLS, Inc.

PUBLICATION COUNTRY	(19):	JP
DOCUMENT NUMBER	(11):	04013288
DOCUMENT KIND	(12):	A [PUBLISHED UNEXAMINED APPLICATION]
PUBLICATION DATE	(43):	19920117
APPLICATION NUMBER	(21):	020114725
APPLICATION DATE	(22):	19900427
INTERNATIONAL CLASSIFICATION	(51):	G 11 B 27/34; G 09 B 15/00; G 10 G 1/00; G 10 K 15/04 //G 10 H 1/00
INVENTOR	(72):	AOYAMA, YASUTADA
APPLICANT	(71):	BROTHER INDUSTRIES, LTD.
TITLE	(54):	KARAOKE DEVICE
FOREIGN TITLE	(54A):	KARAOKE SOUCHI

SPECIFICATION

1. Title of the Invention

KARAOKE DEVICE

2. Claim

(1) With respect to a karaoke device that displays lyrics information in accordance with the progress of a song,

a karaoke device characterized by: being equipped with

a lyrics storage means that stores lyrics data of multiple letter types,

a switching means that selects an optional letter type from among multiple letter types, and

a selection control means that selects and outputs the lyrics data of the letter type specified by the switching means from said lyrics storage means; and

displaying the lyrics of the letter type specified by the singer in an indicator.

3. Detailed Explanation of the Invention

[Field of Industrial Application]

The present invention relates to a karaoke device, specifically to a karaoke device capable of displaying lyrics.

[Related Art]

According to a commonly-known conventional karaoke device, musical sound information is transmitted to electronic music instruments, such as a synthesizer, an electronic piano, and a rhythm machine, a musical accompaniment played by the electronic musical instruments is output

automatically, and the lyrics overlapped with the pictures output from a laser disk device are sung. For some karaoke devices, all of the pictures, accompaniment, and lyrics are stored in laser disks.

In this type of karaoke device, the lyrics are displayed in a television monitor (CRT display) in synchronization to the musical piece (accompaniment) and become displayed as subtitles at the bottom part of, for example, an image of nature. Therefore, by looking at these subtitled lyrics, the singer can easily sing the song without memorizing the lyrics.

[Problems that the Invention is to Solve]

However, in the case of the above-mentioned conventional karaoke device, the lyrics displayed on the television monitor sometimes cannot be read due to difficult Chinese characters used in them. Moreover, a child who does not know many Chinese characters cannot read the lyrics. Therefore, there is a problem in that they are not fully useful as lyrics that assist singing.

Moreover, in cases in which Japanese songs are sung by foreigners, they cannot sing the songs even if they see the lyrics unless they can read Japanese. Therefore, it would be convenient for foreigners if the lyrics were displayed on the television monitor in their first languages.

The present invention was completed in light of the above problems, and its purpose is to supply a karaoke device capable of entertaining even more people by displaying lyrics in the letter types that conform to the singers.

[Means for Solving the Problems]

With respect to a karaoke device that displays lyrics information in accordance with the progress of a song, the present invention is, in order to achieve the above purpose, characterized by: being equipped with a lyrics storage means that stores lyrics data of multiple letter types, a switching means that selects an optional letter type from among multiple letter types, and a selection control means that selects and outputs the lyrics data of the letter type specified by the switching means from said lyrics storage means; and displaying the lyrics of the letter type specified by the singer in an indicator.

[Operation of the Invention]

According to the above structure, when an optional letter type is selected by the switching means, the lyrics data of the letter type becomes read from the storage means. In the indicator, lyrics written in the selected letter type, such as hiragana, katakana, or English, become displayed.

[Embodiment of the Invention]

In the following, an embodiment of the present invention will be explained concretely by referring to the drawings.

Figure 1 illustrates the structure of a karaoke device of the embodiment. The karaoke device's main unit [10] is provided with a power switch [10a] and a switch [10b] that is a switching means for specifying an optional letter type (mode).

This karaoke device's main unit [10] is connected to a lyrics storing medium [12], such as a hard disk. For each song, this lyrics storing medium

[12] stores multiples types of lyrics data, such as the usual original lyrics data in which Chinese characters are combined, hiragana lyrics data, katakana lyrics data, and English lyrics data.

Inside the karaoke device's main unit [10], there is a RAM (random-access memory) [14] that reads the lyrics data of the above-mentioned lyrics storing medium [12] and temporarily stores it by means of writing. This RAM [12] is provided with a mixer [18] via a selector [16], and these circuits are connected to a CPU (central processing unit) [20] that executes overall control.

Moreover, the above-mentioned mixer [18] is connected to a picture storage medium [22], such as a laser disk, and BGV (background video) signals are read from this picture storage medium [22] and are input to the mixer [18]. Karaoke pictures that match the song are projected onto the television monitor [24]. At this time, the lyrics data supplied from the selector [16] becomes mixed with said BGV signals by the mixer [18] by means of superimposition and then becomes displayed in an inserted manner at the bottom of the above-described karaoke pictures.

Figure 2 is a diagram for explaining the functional operation in which lyrics of a letter type specified from among multiple letter types are selected and output. As illustrated in the diagram, said RAM [14] is provided with a memory [14a] for storing the original lyrics data, a memory [14b] for storing hiragana lyrics data, a memory [14c] for storing katakana lyrics data, a memory [14d] for storing Romanized lyrics data, and a memory [14e] for storing English lyrics data. In other words, when a certain song is selected, all of the lyrics data of the selected song

become temporarily stored in said memories, [14a] ~ [14e], from the lyrics storage medium [12], and these lyrics data become output to the selector [16] concurrently.

In the selector [16], only the lyrics data of the specified letter type becomes selected and output to the mixer [18]. If the letter type is changed in the middle of a song by means of said switch [10b], the output letter type becomes switched to the letter type that was newly specified by means of the selector [16] based on the control of the CPU [20]. In this manner, the output of the selector [16] becomes overlapped with the picture data by the miser [18] by means of superimposition and then becomes supplied to the television monitor [24]. In the television monitor [24], lyrics of one of the letter types illustrated in the figure become displayed as pictures.

The embodiment has the above structure, and its operation will be explained in the following based on Fig. 3.

First, a song is selected by means of an operation panel in Step S1, and the lyrics display mode, such as hiragana, specified by means of a control switch [1Cb] becomes set in Step [S2]. In the next Step [S3], the lyrics data starts being played, and the process shifts to the subsequent Step S4 and Step S5. In this Step S5, an instruction to start playing becomes transmitted to the picture storage medium.

Incidentally, all of the lyrics data of the selected song become supplied from the lyrics storage medium [12] and become temporarily stored in their respective memories, [14a] ~ [14e], in Step S4. After that, all of the lyrics data become output to the selector [16] in accordance with

the progress of the song (Step S6).

In the next Step S7, it is detected whether or not the lyrics data has an exit code. If the answer is yes, the operation becomes terminated, but if the answer is no, the process shifts to Step S8 and the lyrics data of the letter type, hiragana lyrics data in this case, which was specified in Step S2 becomes output to the mixer [18]. Since the above-mentioned lyrics data becomes superimposed onto the picture data by means of the mixer [18] in Step S9, pictures become projected onto the television monitor [24] and, at the same time, hiragana lyrics become displayed as subtitles below the pictures (Step S10).

In the next Step S11, it is determined whether or not the mode has been switched by means of the switch [10b]. If the answer is no, the process returns to Step S7, but if the answer is yes, the selector [16] becomes switched to the letter type that was set in Step S12, and the process then shifts to Step S7. Therefore, if, for example, a switch is made to the English mode, English lyrics, instead of hiragana, become displayed in the television monitor [24] even in the middle of a song.

[Effects of the Invention]

As explained earlier, according to the present invention, it is possible to store lyrics data of multiple letter types and to switch among these lyrics data. Therefore, the lyrics data of an optional letter type can be displayed in the indicator. As a result, even elementary school children who cannot read Chinese characters or foreigners who do not understand Japanese can know the lyrics of popular songs from the subtitles. Therefore, it is possible to supply a convenient karaoke device capable

of entertaining many people.

4. Brief Explanation of the Drawings

Figure 1 is a general diagram illustrating the structure of a karaoke device of the embodiment of the invention. Figure 2 is a diagram for explaining the functional operation in which the lyrics of a specified letter type are selected and output. Figure 3 is a flow chart indicating the operation of the embodiment.

[10] = karaoke device's main unit

[10b] = switch

[12] = lyrics storage medium

[14], [14a] ~ [14c] = RAM (memory)

[16] = selector

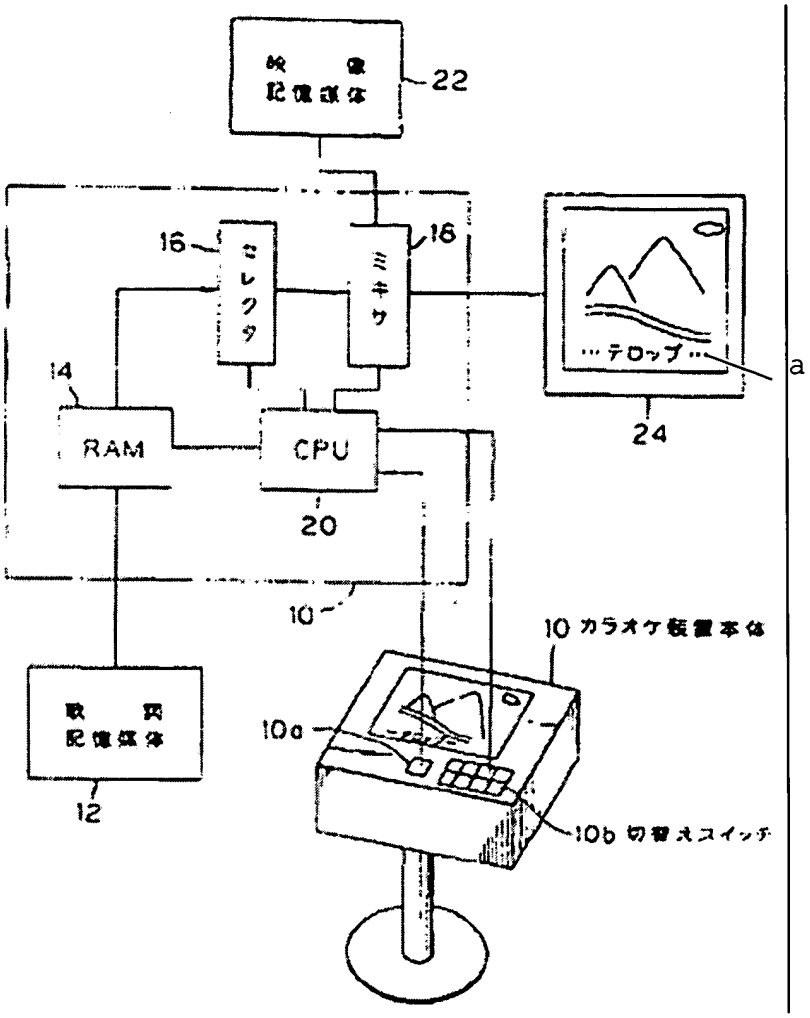
[18] = mixer

[20] = CPU

[22] = picture storage medium

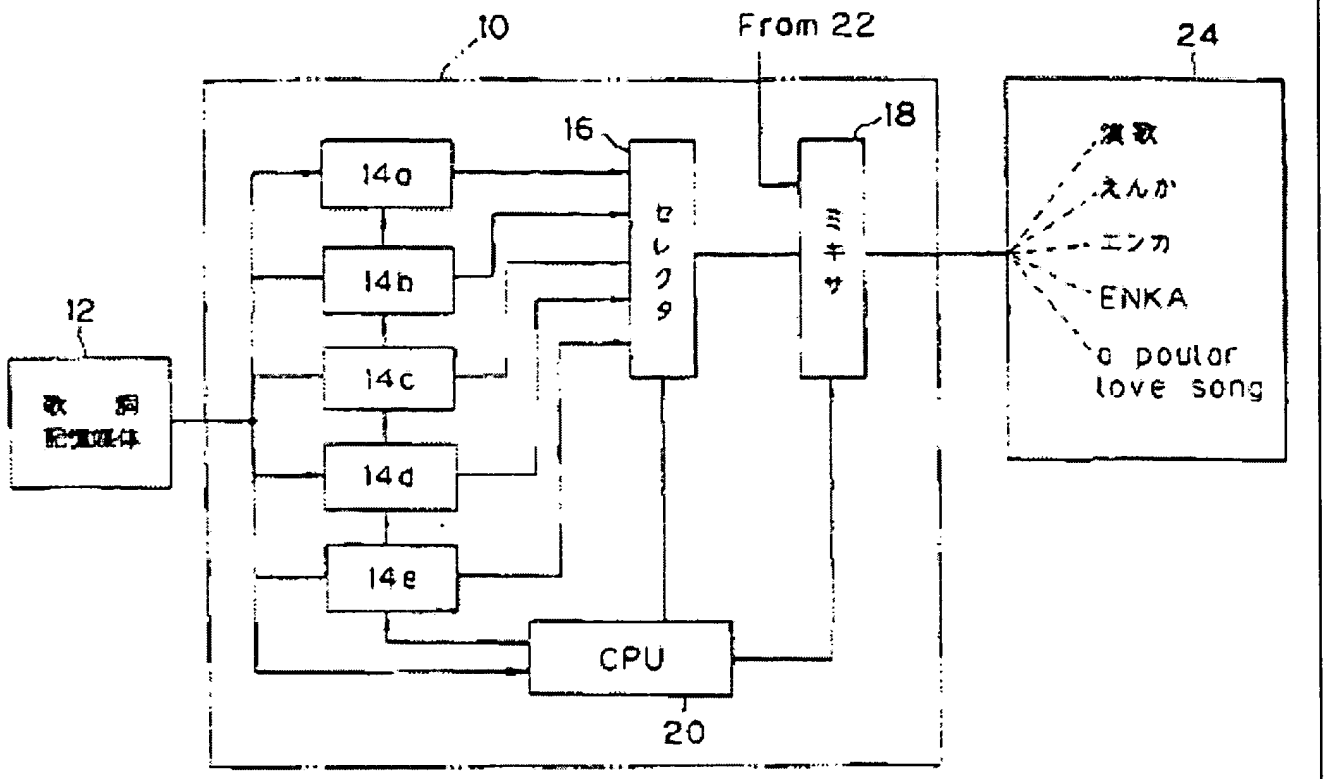
[24] = television monitor

Figure 1



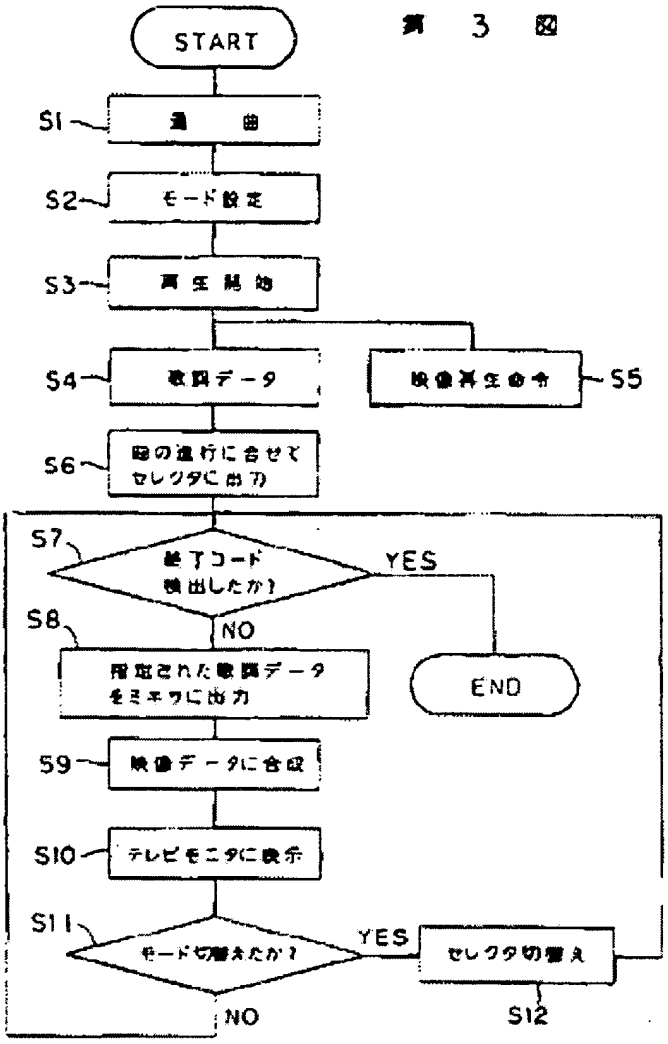
Key: 10) karaoke device's main unit; 10b) switch; 12) lyrics storage medium; 16) selector; 18) mixer; 22) picture storage medium; a) subtitle.

Figure 2



Key: 12) lyrics storage medium; 16) selector; 18) mixer; 24) enka [in Chinese characters, enka [in hiragana], enka [in katakana], ENKA, a popular love song.

Figure 3



Key: S1) A song is selected.; S2) A mode is set.; S3) Play is started.; S4) Lyrics data.; S5) Picture playback is instructed.; S6) Output to the selector in accordance with the progress of the song.; S7) Exit code detected?; S8) Specified lyrics data is output to the mixer.; S9) Synthesized with picture data.; S10) Displayed on the television monitor.; S11) Was mode switched?; S12) Switched by the selector.